

## CLAIMS

Claims 1-64 (Canceled).

65. (Currently Amended) A composition compound having the general formula X-L-S wherein:

the S moiety is a pyranose;

the X moiety is an aryl, a substituted or unsubstituted C<sub>1</sub>-C<sub>8</sub> alkyl, alkoxy, alkylthio, alkenyl, alkylaryl, alkylamino, alkylamido, amido, or arylamido, in which at least one atom is substituted by a radio-opacifying atom of an element with an atomic number of approximately Z = 35 to approximately Z = 74, and which may be further substituted; and

the L moiety is unsubstituted or substituted, and is a C<sub>1</sub>-C<sub>8</sub> alkyl, alkoxy, alkylthio, alkenyl, alkylaryl, alkylamino, alkylamido, amido, or arylamido, and is bonded to the S moiety and to the X moiety.

66. (Currently Amended) The composition compound of claim 65 wherein the S moiety is hydroxy-substituted.

67. (Currently Amended) The composition compound of claim 65 wherein the S moiety is 2-hydroxy-substituted.

68. (Currently Amended) The composition compound of claim 65 wherein:

the S moiety is a substituted pyranose of the formula C<sub>6</sub>H<sub>11</sub>O<sub>5</sub>,

the X moiety is a substituted aryl of the formula C<sub>6</sub>H<sub>2</sub>I<sub>3</sub>, and

the L moiety is a substituted amidoaryl of the formula C<sub>6</sub>H<sub>3</sub>NH<sub>2</sub>NHCO.

69. (Currently Amended) The composition compound of claim 65 wherein:

the S moiety is a substituted pyranose of the formula C<sub>6</sub>H<sub>11</sub>O<sub>5</sub>,

the X moiety is a substituted aryl of the formula C<sub>6</sub>H<sub>3</sub>CH<sub>2</sub>CH<sub>3</sub>, and

the L moiety is a substituted amidoaryl of the formula C<sub>6</sub>H<sub>3</sub>NH<sub>2</sub>NHCO.

70. (Currently Amended) The composition compound of claim 65 wherein:

the S moiety is a substituted pyranose of the formula C<sub>6</sub>H<sub>11</sub>O<sub>5</sub>,

the X moiety is a substituted aryl of the formula C<sub>6</sub>I<sub>3</sub>(CONHCH<sub>3</sub>)<sub>2</sub>, and

the L moiety is a substituted amidoaryl of the formula C<sub>6</sub>H<sub>3</sub>NH<sub>2</sub>NHCO.

Claims 71-75 (Canceled).

76. (Currently Amended) A method of imaging tissue comprising:

- a) administering a composition compound according to the formula of claim 65[,  
wherein said composition compound is cell membrane-permeable and wherein:  
S is a binding moiety which selectively binds to a cellular molecule in said tissue;  
X is a radio-opaque moiety; and  
L is a linking moiety which links the S moiety to the X moiety];
- b) irradiating said tissue with a radiation source which is [capable of being] attenuated by  
the X moiety; and
- c) acquiring an image of said tissue.

77. (Previously Amended) The method of claim 76 wherein said acquiring occurs during said irradiating and wherein said tissue is live during said administering.

78. (Original) The method of claim 76 further comprising determining whether said tissue comprises malignant tissue using said image.

79. (Original) The method of claim 76 further comprising determining whether said tissue comprises abnormal myocardial tissue using said image.

Claims 80-86 (Canceled).